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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/401,439	09/22/1999	USAMA M. FAYYAD	1018.057US1	4688

7590 12/08/2003

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EXAMINER

COLON, CATHERINE M

ART UNIT	PAPER NUMBER
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3623

DATE MAILED: 12/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/401,439

Applicant(s)

FAYYAD ET AL.

Examiner

C. Michelle Colon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,6,7,10-13,15-17,19-29,31-39,45-50 and 58-60 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,6,7,10-13,15-17,19,20 and 58 is/are allowed.
- 6) ☒ Claim(s) 21-29,31-39,45-50,59 and 60 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. The following is a Final Office Action in response to the communication received on September 11, 2003. Claims 2-5, 8, 9, 14, 18, 30, 40-44, 51-57 and 61-64 have been cancelled. Claims 1, 6, 7, 10-13, 15-17, 19-29, 31-39, 45-50 and 58-60 are now pending in this application.

#### ***Response to Amendment***

2. Applicant's amendments to claims 1, 31 and 60 are acknowledged.

#### ***Response to Arguments***

3. Applicant's arguments have been fully considered, but found unpersuasive. In the Remarks, Applicant argues that Almasi et al. fails to show or suggest the step of inputting to the data mining engine a set of user attributes and using those attributes to determine a user segment, previously obtained by clustering of data, that correlates to the input set of attributes.

In response to the argument, Examiner respectfully disagrees. First, Applicant is reminded that the citations provided by Examiner are to be used as a guide to specific teachings within the reference and should be considered in context of the reference as a whole. The rejection of the claims is based on the entirety of the reference and not just on the citations provided by Examiner. Accordingly, Examiner respectfully submits that Almasi et al. does disclose the inputting of data (user attributes) to the data mining engine throughout the disclosure such as in the abstract (input parameters), col. 1, lines

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25-27 (features in the input space), col. 1, lines 46-63 (input records that have similar characteristics), col. 2, lines 51-61 (identify groups of records having common input parameters) and col. 13, lines 13-29 (identify groups of records which are mathematically similar in the input data space). In order for the system of Almasi et al. to analyze data contained in a database, the data must first be inputted to the database. Furthermore, the inputting of data to a data mining engine is not a novel idea particularly in the art of data mining where data stored in a database is analyzed for certain patterns/characteristics. Thus, Examiner respectfully submits Almasi et al. uses attributes/characteristics inputted to a database to determine user segments that are statistically correlated to particular attributes/characteristics and then determines marketing strategies for each segment based on the segments' characteristics (col. 13, lines 13-29). Since claims 21, 31, 59 and 60 of the instant application do not expressly recite how the inputting of data to the data mining engine occurs, it is not necessary for the prior art to teach how the data is inputted. Therefore, Applicant's arguments have been fully considered, but found unpersuasive and the prior art rejections of claims 21-29, 31-39, 45-50, 59 and 60 are maintained and repeated below.

Applicant's arguments regarding the 35 U.S.C. 112, first paragraph rejections of claims 47-50 have been found persuasive and the rejections withdrawn.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 21 and 59 are rejected under 35 U.S.C. 102(e) as being anticipated by Almasi et al. (U.S. 6,260,036).

As per claims 21 and 59, Almasi et al. discloses a method and machine-readable medium of personalizing marketing resources, comprising:

providing a data mining engine capable of being trained with training data and capable thereafter of performing inferences relative to the training data (col. 1, lines 46-63; col. 9, lines 20-27; Figure 5; The reference discloses a data mining engine used for training data to learn relationships among the data.);

providing a user database for correlating observed characteristics of each one of a set of users with a set of adaptable marketing features, the observed characteristics comprising at least one of: (a) at least one of the user's attributes, and (b) at least one of the user's preferences (col. 3, lines 20-38; col. 13, lines 13-29; The reference discloses a user database for correlating user characteristics.);

training the data mining engine with a set of training data comprising the user database by clustering the users in the database into user segments with similar

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observed characteristics (col. 2, line 65-col. 3, line 38; col. 13, lines 13-29; The reference discloses clustering users in a database into user segments with similar characteristics.);

inputting to the data mining engine a set of user attributes of one of: (a) a particular user, or (b) a particular group of users (col. 13, line 63-col. 14, line 52); and, in response thereto, obtaining from the data mining engine a subset of the adaptable marketing features having the highest correlation to the set of user attributes by determining which of the user segments identified during the training of the data mining engine has characteristics that are statistically correlated with the set of user attributes; and wherein the subset of adaptable marketing features is determined based upon the preferences of users in the user segments statistically correlated to the set of user attributes (col. 13, lines 13-29; col. 14, lines 44-52; col. 15, lines 7-12; The reference discloses clustering users in a database to determine the groups of users that are mathematically correlated to particular marketing strategies based on their specific characteristics.).

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 22-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Almasi et al. (U.S. 6,260,036) as applied to claim 21 above.

As per claims 22-29, Almasi et al. does not expressly disclose the method of claim 21, further comprising:

a presentation to be directed to the particular user or group of users comprising marketing features contained within the subset of marketing features; or wherein the marketing features comprise a set of different advertisements; or wherein the marketing features comprise a set of different products which can be marketed at a common site; or wherein the marketing features comprise a set of different potential features of a storefront; or wherein the marketing features comprise a set of different potential features of a catalog; or wherein the marketing features comprise a set of different potential features of a shopping experience; or wherein the marketing features comprise a set of different potential features of a direct mailing; or wherein the marketing features comprise a set of different potential features of a common promotion.

However, Almasi et al. does disclose clustering users in a database to develop different marketing strategies/campaigns tailored for each cluster's characteristics (col. 13, lines 13-29; col. 14, lines 44-52). It is old and well known in the art that presentations, advertisements, product promotions and catalog mailings are specific examples of various marketing strategies/campaigns that can be targeted to different user groups based on the groups' characteristics. Thus, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to have the marketing features comprise specific marketing activities that are old and well known in the art

such as advertisements, promotions and direct mailings because each activity caters to different types of user characteristics providing a variety of options, flexibility and wider audience reach for the development of marketing strategies.

8. Claims 31-39, 45-50 and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Almasi et al. (U.S. 6,260,036) and Herz et al. (U.S. 6,571,279).

As per claims 31 and 60, Almasi et al. discloses a method and machine-readable medium of controlling the marketing resources of an Internet site having a real-time user interface during a visit to the Internet site by a particular user, comprising:

providing a data mining engine capable of being trained with training data and capable thereafter of performing inferences relative to the training data (col. 1, lines 46-63; col. 9, lines 20-27; Figure 5; The reference discloses a data mining engine used for training data to learn relationships among the data.);

providing a user database for correlating observed characteristics of each one of a set of users with a set of adaptable marketing features, the observed characteristics comprising at least one of: (a) at least one of the user's attributes, and (b) at least one of the user's preferences (col. 3, lines 20-38; col. 13, lines 13-29; The reference discloses a user database for correlating user characteristics.);

training the data mining engine with a set of training data comprising the user database by clustering the users in the database into segments of users with similar characteristics (col. 2, line 65-col. 3, line 38; col. 13, lines 13-29; The reference



discloses clustering users in a database into user segments with similar characteristics.);

inputting to the data mining engine a set of user attributes of the particular user (col. 13, line 63-col. 14, line 52); and, in response thereto, obtaining from the data mining engine a subset of the adaptable marketing features having the highest correlation to the set of user attributes by determining which of the segments has characteristics that are statistically correlated with the set of user attributes; and wherein the subset of adaptable marketing features is determined based upon the preferences of users in the user segments statistically correlated to the set of user attributes (col. 13, lines 13-29; col. 14, lines 44-52; col. 15, lines 7-12; The reference discloses clustering users in a database to determine the groups of users that are mathematically correlated to particular marketing strategies based on their specific characteristics.).

Almasi et al. does not expressly disclose obtaining observed characteristics of the user through an Internet site. However, Almasi et al. does disclose observing and obtaining characteristics of users such as purchasing patterns, specific account information and demographics (col. 3, lines 20-38; col. 14, lines 44-52), all of which can be applied to a user's conduct over the Internet. Additionally, the Internet is an old and well known medium through which user's browse and purchase items and marketers offer advertisements and promotions to users (Herz et al., col. 23, lines 64-66). Herz et al. discloses obtaining observed characteristics of a user through the Internet (col. 14, line 63-col. 16, line 33). Thus, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to obtain observed characteristics of a user

through an Internet site because the Internet is such a highly frequented medium by users, thus providing marketers with ample opportunity for tracking user behavior and offering marketing features to the user tailored for that behavior.

As per claims 32-39, Almasi et al. does not expressly disclose the method of claim 31, further comprising:

a presentation to be directed to the particular user or group of users comprising marketing features contained within the subset of marketing features; or wherein the marketing features comprise a set of different advertisements; or wherein the marketing features comprise a set of different products which can be marketed at a common site; or wherein the marketing features comprise a set of different potential features of a storefront; or wherein the marketing features comprise a set of different potential features of a catalog; or wherein the marketing features comprise a set of different potential features of a shopping experience; or wherein the marketing features comprise a set of different potential features of a direct mailing; or wherein the marketing features comprise a set of different potential features of a common promotion.

However, Almasi et al. does disclose clustering users in a database to develop different marketing strategies/campaigns tailored for each cluster's characteristics (col. 13, lines 13-29; col. 14, lines 44-52). Herz et al. discloses offering various advertisements, product promotions specifically tailored to a user based on the user's characteristics (col. 4, lines 37-58; col. 15, lines 38-59; col. 16, lines 22-33). Additionally, it is old and well known in the art that presentations, advertisements, product promotions and catalog mailings are specific examples of various marketing

strategies/campaigns that can be targeted to different user groups based on the groups' characteristics. Thus, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to have the marketing features comprise specific marketing activities that are old and well known in the art such as advertisements, promotions and direct mailings because each activity caters to different types of user characteristics providing a variety of options, flexibility and wider audience reach for the development of marketing strategies.

As per claim 45, Almasi et al. does not expressly disclose the method of claim 31 wherein some characteristics of the particular user are not observed through the interface, but have been previously determined by grouping for the segment to which the particular user is assigned, whereby the characteristics not observed through the interface are filled in upon assignment of the particular user to a segment. However, Herz et al. discloses combining the use of collaborative filtering with data mining and clustering techniques where the collaborative filtering may associate a characteristic with a user that was not directly observed of the user but is associated with other users having other similar characteristics to the user (col. 23, line 10-col. 24, line 36). Thus, collaborative filtering enables the association of characteristics with a user based on the user's grouping rather than directly observing the characteristic of the user. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to associate a characteristic with a user based on the user's grouping rather than from direct observation of the user because doing so enables marketers to maximize marketing strategies by using inferences on customers' behaviors and preferences to

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offer promotions specifically tailored to customers without waiting to directly observe the behavior of the customer (Herz et al., col. 23, lines 59-64).

As per claim 46, Herz et al. discloses the method of claim 32 further comprising: observing through the interface responses of the user to the presentation (col. 4, lines 37-58; col. 15, lines 38-59; col. 16, lines 22-33; The reference discloses monitoring users' responses (i.e., banner clickthroughs, purchases) to advertisements and other presentations provided to a user.). At the time of the invention, it would have been obvious to observe user responses to presentations because doing so enables marketers to monitor the effectiveness of their marketing strategies and make changes to their strategies when user response is low or unfavorable (col. 15, lines 50-54).

As per claim 47, Almasi et al. discloses the method of claim 46 further comprising: comparing a distribution of the observed responses across the marketing features of the presentation to corresponding distributions in different ones of the segments (col. 13, line 63-col. 14, line 52). Almasi et al. does not expressly disclose detecting errors in the assignment of a particular user to a segment and correcting the assignment of the user to a different segment in response to the detection of an error. However, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to correct the assignment of the user to a different segment in response to the detection of an error because doing so ensures that users are correctly associated to segments most resembling their characteristics so that the most appropriate advertisements are presented to them, thus improving the effectiveness of the marketing strategies.

As per claim 48, Almasi et al. discloses the method of claim 47 further comprising: based upon the corrected assignment of the user to a new segment, obtaining from the data mining engine a subset of the adaptable marketing features having the highest correlation to the set of user attributes (col. 13, lines 13-29; col. 14, lines 44-52; col. 15, lines 7-12; The reference discloses clustering users in a database to determine the groups of users that are mathematically correlated to particular marketing strategies based on their specific characteristics.).

As per claim 49, Almasi et al. discloses the method of claim 48 further comprising modifying the presentation based upon the latest subset of marketing features obtained from the data mining engine, whereby to increase the likelihood of a favorable response by the user (col. 13, lines 13-18; col. 14, lines 44-52; The reference discloses using a user's association with a segment to tailor marketing campaigns to the user.).

As per claim 50, Almasi et al. discloses the method of claim 49 further comprising adding the user and an identification of the user's assigned segment to the user database (col. 2, lines 51-61; col. 3, lines 20-35; The reference discloses maintaining user information in a database, including the cluster the user is associated with as well as other identifying information.).

***Allowable Subject Matter***

9. Claims 1, 6, 7, 10-13, 15-17, 19, 20 and 58 are allowed.

***Conclusion***

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Bradley et al. (U.S. 6,449,612) discusses a clustering system for use with large databases; and
- Lee et al. (U.S. 6,317,752) discusses version testing in database mining.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. Michelle Colon whose telephone number is 703-605-4251. The examiner can normally be reached Monday – Thursday from 8:30am to 5:30pm and every other Friday from 8:30am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz, can be reached at 703-305-9643.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

Any response to this action should be mailed to:

***Commissioner of Patents and Trademarks***

***Washington D.C. 20231***

or faxed to:


703-305-7687 [Official Communications; including After Final  
communications labeled "Box AF"]

703-746-7202 [For status inquiries, draft communication, labeled  
"Proposed" or "Draft"]

Hand delivered responses should be brought to Crystal Park 5, 2451 Crystal Drive, Arlington, VA 7<sup>th</sup> floor receptionist.

  
cmc

December 2, 2003

  
Susanna Diaz  
Primary Examiner  
A.U. 3623